

Amendments to the Claims:

The following listing will replace all prior listing of claims in the application.

Listing of Claims:

1. (Currently amended) A device Device (100) for processing a detector signal (i) derived from a particle detector (1), said device comprising an integrator (2) for measuring the total charge transported by a an input signal (4) feeding said integrator (2) for a predetermined time interval, characterized in that it wherein said device further comprises a unit (5) for reducing a fluctuating component of the background noise present in said detector signal (4) and for producing said input signal (4).

2. (Currently amended) Signal processing The device according to claim 1, characterized in that wherein said unit (5) comprises:

[-] a converter (6) for associating with an output voltage with an input current an output voltage (e), followed by;

[-] a threshold trigger (7) for allowing current to pass when said output voltage (e) exceeds a first predetermined threshold value (ϵ_1) and for preventing current from passing when the said output voltage (e) falls below a second predetermined threshold value (ϵ_2), followed by; and

[-] a converter (9) for associating an input voltage with an output current.

3. (Currently amended) Signal processing The device according to claim 2, characterized in that wherein said converter (6) comprises an amplifier A₄ in parallel with a resistor R₄.

4. (Currently amended) Signal processing The device according to claim 2, characterized in that wherein said threshold trigger (7) comprises a comparator.

5. (Currently amended) Signal processing The device according to claim 2, characterized in that wherein said converter (9) comprises a resistor R₂.

6. (Currently amended) A device ~~Device~~ for processing signals produced by a set of particle detectors, ~~characterized in that~~ wherein at least one of ~~these~~ said signals is processed by means of comprising a device according to ~~any one of~~ any one of claims claim 1 to 5.

7. (Currently amended) Signal processing ~~The~~ device according to ~~any one of~~ claims claim 1 to 6, ~~characterized in that~~ wherein ~~said particles~~ detected by ~~said set of particle detectors~~ are comprise photons.

8. (Currently amended) A radiology ~~Radiology~~ apparatus ~~characterized in that it comprises~~ comprising a device according to ~~any one of~~ claims claim 1 to 7.

9. An imaging ~~Imaging~~ apparatus ~~characterized in that it comprises~~ comprising a device according to ~~any one of~~ claims claim 1 to 7.

10. A fluoroscopy ~~Fluoroscopy~~ apparatus ~~characterized in that it comprises~~ comprising a device according to ~~any one of~~ claims claim 1 to 7.